

NEW CLAIMS

7. A polarization filter for high frequency waves guided in a waveguide, comprising:

- a) an entry section in which two orthogonally polarized wave types are capable of propagating,
- b) two first exit sections for propagating one of the wave types and extending along an extension of the entry section,
- c) a planar septum for separating the two first exit sections, and
- d) two second exit sections for propagating the other of the wave types and extending laterally in a plane of the septum, the two second exit sections being coaxial conductors.

8. The polarization filter according to claim 7, wherein the septum has a tapering front section, and wherein the second exit sections lead into the entry section between a tip and a base of the front section.

9. The polarization filter according to claim 7, wherein the entry section has walls with inward protruding ridges oriented along a longitudinal direction.

10. The polarization filter according to claim 9, wherein the ridges on the walls of the entry section, to which the second exit sections do not lead, are lengthened into the first exit sections.

11. The polarization filter according to claim 9, and comprising a step formed at a transition between the entry section and the first exit sections, and wherein the ridges extend from the step only over a part of a length of the entry section.

12. The polarization filter according to claim 7, wherein the coaxial conductors each has an internal conductor that carries a bead on an end protruding into the entry section.